

University of Groningen

Highly efficient hydrosilylation of alkenes by organoyttrium catalysts with sterically demanding amidinate and guanidinate ligands

Ge, Shaozhong; Meetsma, Auke; Hessen, Bart

Published in:
 Organometallics

DOI:
[10.1021/om800032g](https://doi.org/10.1021/om800032g)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
 Publisher's PDF, also known as Version of record

Publication date:
 2008

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Ge, S., Meetsma, A., & Hessen, B. (2008). Highly efficient hydrosilylation of alkenes by organoyttrium catalysts with sterically demanding amidinate and guanidinate ligands. *Organometallics*, 27(13), 3131-3135. <https://doi.org/10.1021/om800032g>

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Supporting Information to:

Highly Efficient Hydrosilylation of Alkenes by Organoyttrium Catalysts with Sterically Demanding Amidinate and Guanidinate Ligands

*Shaozhong Ge, Auke Meetsma, and Bart Hessen**

Characterization data of organosilane products

1-(Phenylsilyl)hexane (4a).

¹H NMR (400 MHz, C₆D₆, δ): 7.50 (m, 2H), 7.16 (m, 3H), 4.48 (t, 2H, $J_{\text{HH}} = 3.66$ Hz, SiH₂), 1.38 (m, 2H), 1.32-1.11 (m, 6H), 0.86 (t, 3H, $J_{\text{HH}} = 7.32$ Hz, CH₃), 0.81 (m, 2H). GC-MS: $m/z = 192$ (M⁺).

1-(Phenylsilyl)octane (4b).

¹H NMR (400 MHz, C₆D₆, δ): 7.49 (m, 2H), 7.16 (m, 3H), 4.47 (t, 2H, $J_{\text{HH}} = 3.66$ Hz, SiH₂), 1.40 (m, 2H), 1.27 (m, 4H), 1.21 (m, 6H), 0.89 (t, 3H, $J_{\text{HH}} = 7.09$ Hz, CH₃), 0.83 (m, 2H). GC-MS: $m/z = 220$ (M⁺).

2-(Phenylsilyl)ethylcyclohexane (4c).

¹H NMR (400 MHz, C₆D₆, δ): 7.50 (m, 2H), 7.16 (m, 3H), 4.47 (t, 2H, $J_{\text{HH}} = 3.67$ Hz, SiH₂), 1.64 (m, 5H), 1.29 (m, 2H), 1.23-1.02 (m, 4H), 0.90-0.68 (m, 4H). GC-MS: $m/z = 218$ (M⁺).

4-[2-(Phenyl)ethyl]cyclohex-1-ene (4d).

¹H NMR (400 MHz, C₆D₆, δ): 7.49 (m, 2H), 7.17 (m, 3H), 5.65 (m, 2H), 4.46 (t, 2H, $J_{\text{HH}} = 3.56$ Hz, SiH₂), 2.10-1.86 (m, 3H), 1.68-1.25 (m, 5H), 1.08 (m, 1H), 0.80 (m, 2H). GC-MS: $m/z = 216$ (M⁺).

2,2-Dimethyl-4-(phenyl)butane (4e).

¹H NMR (400 MHz, C₆D₆, δ): 7.50 (m, 2H), 7.16 (m, 3H), 5.65 (m, 2H), 4.48 (t, 2H, $J_{\text{HH}} = 3.62$ Hz, SiH₂), 1.29 (m, 2H), 0.79 (s, 9H), 0.76 (m, 2H). GC-MS: $m/z = 192$ (M⁺).

1-Phenyl-1-(phenylsilyl)ethane (4i).

^1H NMR (200MHz, C_6D_6 , δ): 7.54-6.94 (m, 10H), 4.43 (d, 2H, $J_{\text{HH}} = 3.15$ Hz, SiH_2), 2.44 (m, 1H), 1.34 (d, 3H, $J_{\text{HH}} = 7.51$ Hz, CH_3). GC-MS: $m/z = 212$ (M^+). Retention time: 18.8 min.

1-Phenyl-2-(phenylsilyl)ethane (5i).

^1H NMR (200MHz, C_6D_6 , δ): 7.54-6.94 (m, 10H), 4.40 (t, 2H, $J_{\text{HH}} = 3.62$ Hz, SiH_2), 2.63 (m, 2H), 1.13 (m, 2H). GC-MS: $m/z = 212$ (M^+). Retention time: 18.36 min.